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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,740	10/22/2001	Yet-Ming Chiang	M00925/70108 TJO	1110

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EXAMINER

MAPLES, JOHN S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/021,740	CHIANG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	John S. Maples	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 65-73, 77-88, 91-98, 129, 151 and 161-165 ~~is/are~~ are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 65-73, 77-88, 91-98, 129, 151 and 161-165 ~~is/are~~ are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 65-71, 73, 77-85, 87, 91-98, 129, 151, 161-165 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon et al.-US 6,495,283 (Yoon) in view of Bates et al.-US 5,338,625. (Bates)

Yoon sets forth a battery including a first electrode on a collector planar substrate 1 having a reticulated surface with protrusions and indentations which electrode interpenetrates with a second electrode on a second collector planar substrate 5 having a reticulated surface with protrusions and indentations. See column 1, lines 21-36 and column 3, line 21-column 5, line 20 of Yoon along with Figures 2-5. As seen in the drawings, a second surface area of the protrusions and indentations is at least 5 times that of a smooth non-reticulating surface. The varying thickness of the protrusion of

Art Unit: 1745

claims 73 and 87 is inherently met by Yoon because if even on the microscopic level, the thickness will vary as claimed. With regard to the porosity of claims 151, 161-163, the claimed ranges of porosity is inherently met by Yoon because the electrodes therein must be porous for the electrochemical reaction to occur. In any event, applicant has used the word "about" to describe the porosity so that it would have been obvious to have formed the electrode of the claimed porosity so that the reaction would proceed at a rapid rate.

The only claimed feature not taught by Yoon is the thickness of the protrusion. It is noted that in column 1 of Yoon, this patent states that the battery therein is of a micro-electronic size. Bates discloses a micro-electronic battery with sizes down to less than 10 microns between the two electrodes and thus to have formed the battery of Yoon of the size of Bates would have been obvious so that the Yoon battery could be used in a small electronic device.

Applicant's arguments have all been considered but are not deemed persuasive. Applicant argues that the electrodes in the combination of Yoon and Bates do not teach planar substrates for the electrodes. The examiner respectfully disagrees. As set forth in the previous section of this action, Yoon sets forth a planar substrate for each of the electrodes-a collector in each instance. As a matter of fact, this is the same structure that applicant has claimed-a collector. In view of the above, applicant's claims are properly rejected for the reasons set forth in the previous section of this action.

3. Claims 72, 86, 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon in view of Bates and further in view of Chen-US 5,677,080. (Chen) (New Rejection)

The only claimed feature not shown by the combination of Yoon and Bates is the cross-sectional width of the electrode increasing at cross-sections approaching the base of the electrode. Chen discloses in Figure 5 and in column 5, lines 22-65 dual electrodes in a battery that are interpenetrating wherein, for example, electrode 215 has a cross-sectional width that increases toward the base of the electrode. To have incorporated the configuration of the electrode of Chen in the teachings of Yoon combined with Bates would have been obvious which would strengthen the positive electrode in the battery therein.

4. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


Art Unit: 1745

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Thursday, 6:15-3:45, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JOHN S. MAPLES  
PRIMARY EXAMINER

JSM/07-09-2005